

FIG. 1 : $n = 1-3$; $X_7 = H, OH$; $Y_7 = H, SO_3^-, CO_2H, CH_2CO_2H, CH_2OH$

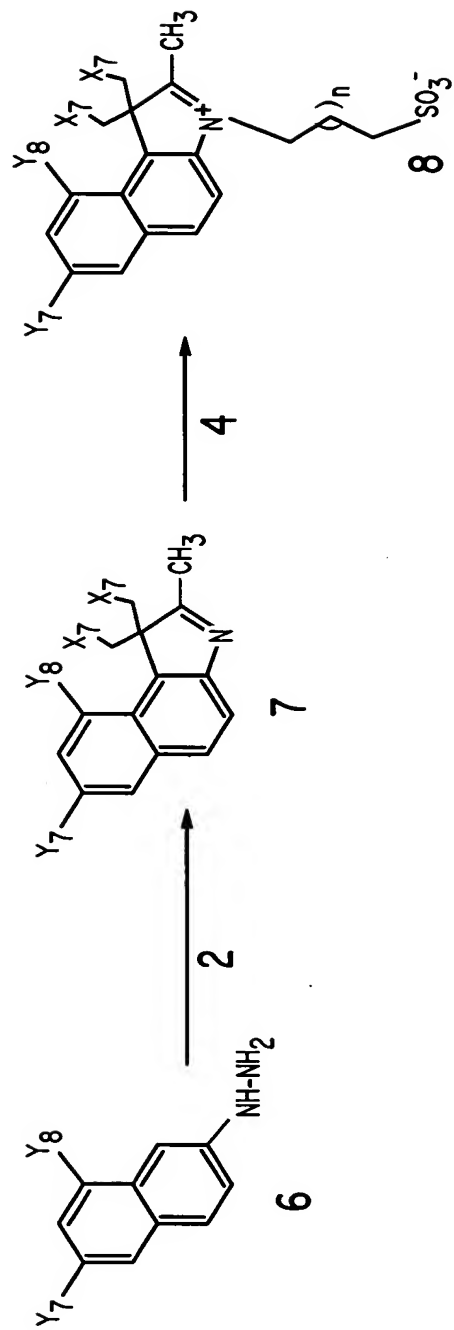


FIG. 2 : $n = 1-3$; $X_7 = H, OH$; $Y_7, Y_8 = H, SO_3^-, CO_2H, CH_2CO_2H, CH_2OH$

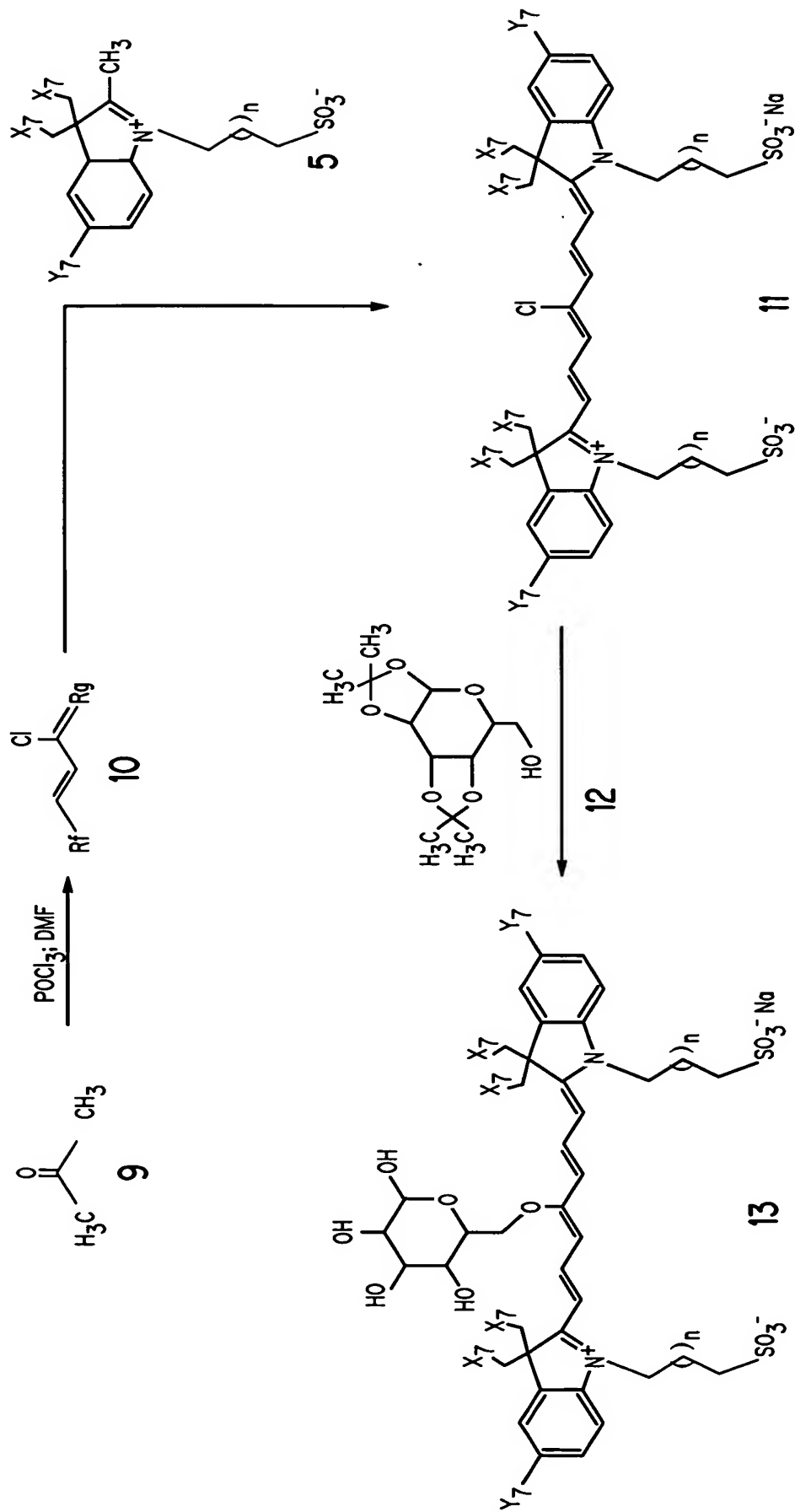


FIG. 3 :

$n = 1-3$; $\text{X}_7 = \text{H}, \text{OH}$; $\text{Y}_7 = \text{H}, \text{SO}_3^-, \text{CO}_2\text{H}, \text{CH}_2\text{CO}_2\text{H}, \text{CH}_2\text{OH}$; $\text{R}_f = (\text{CH}_3)_2\text{N}$ or OH ; $\text{R}_g = (\text{CH}_3)_2\text{N}^+$ or CHO

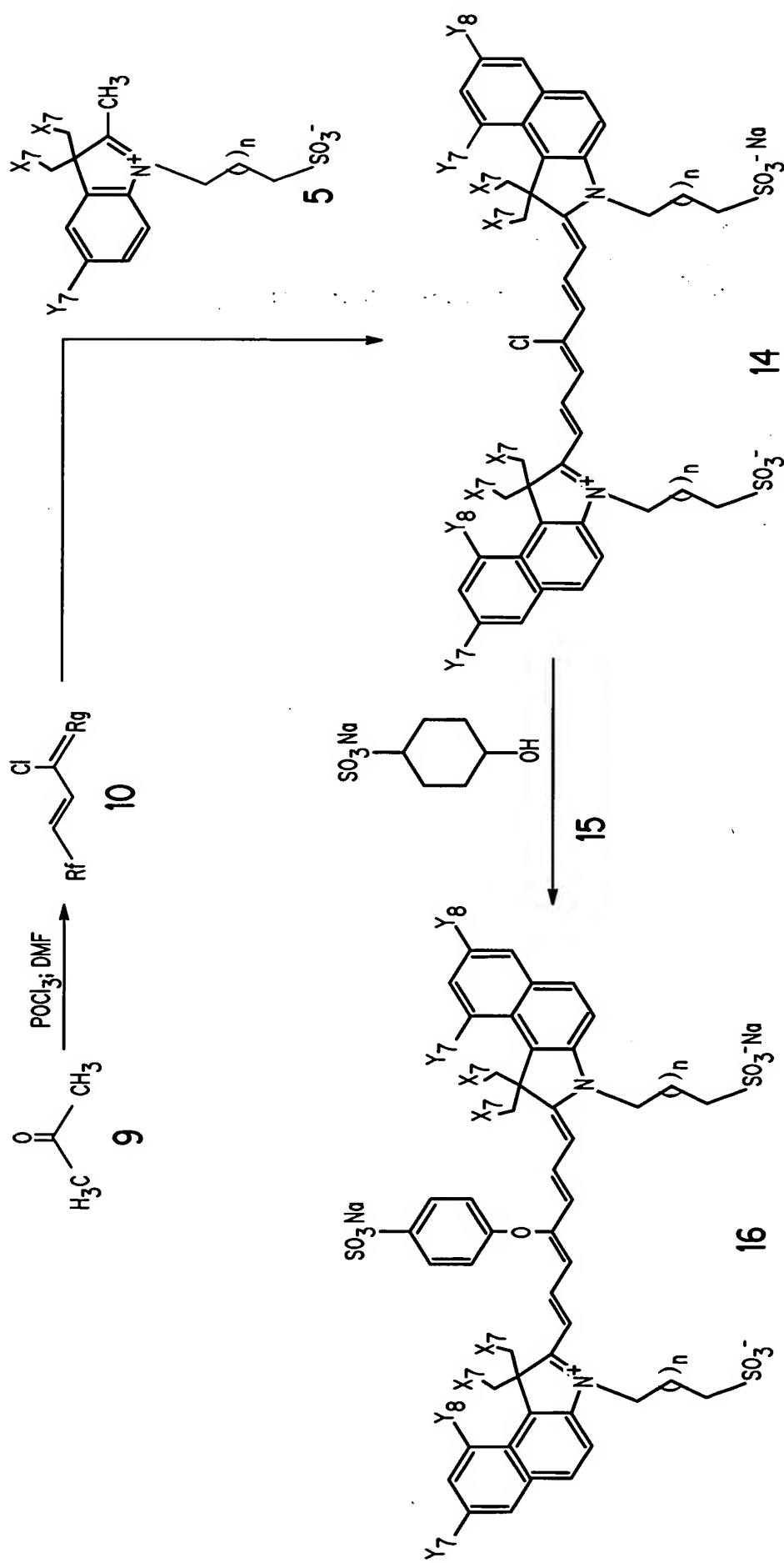


FIG. 4 :

$n = 1-3$; $\text{X}_7 = \text{H}, \text{OH}$; $\text{Y}_7 = \text{H}, \text{SO}_3^-, \text{CO}_2\text{H}, \text{CH}_2\text{CO}_2\text{H}, \text{CH}_2\text{OH}$; $\text{Rf} = (\text{CH}_3)_2\text{N}^+$ or CHO

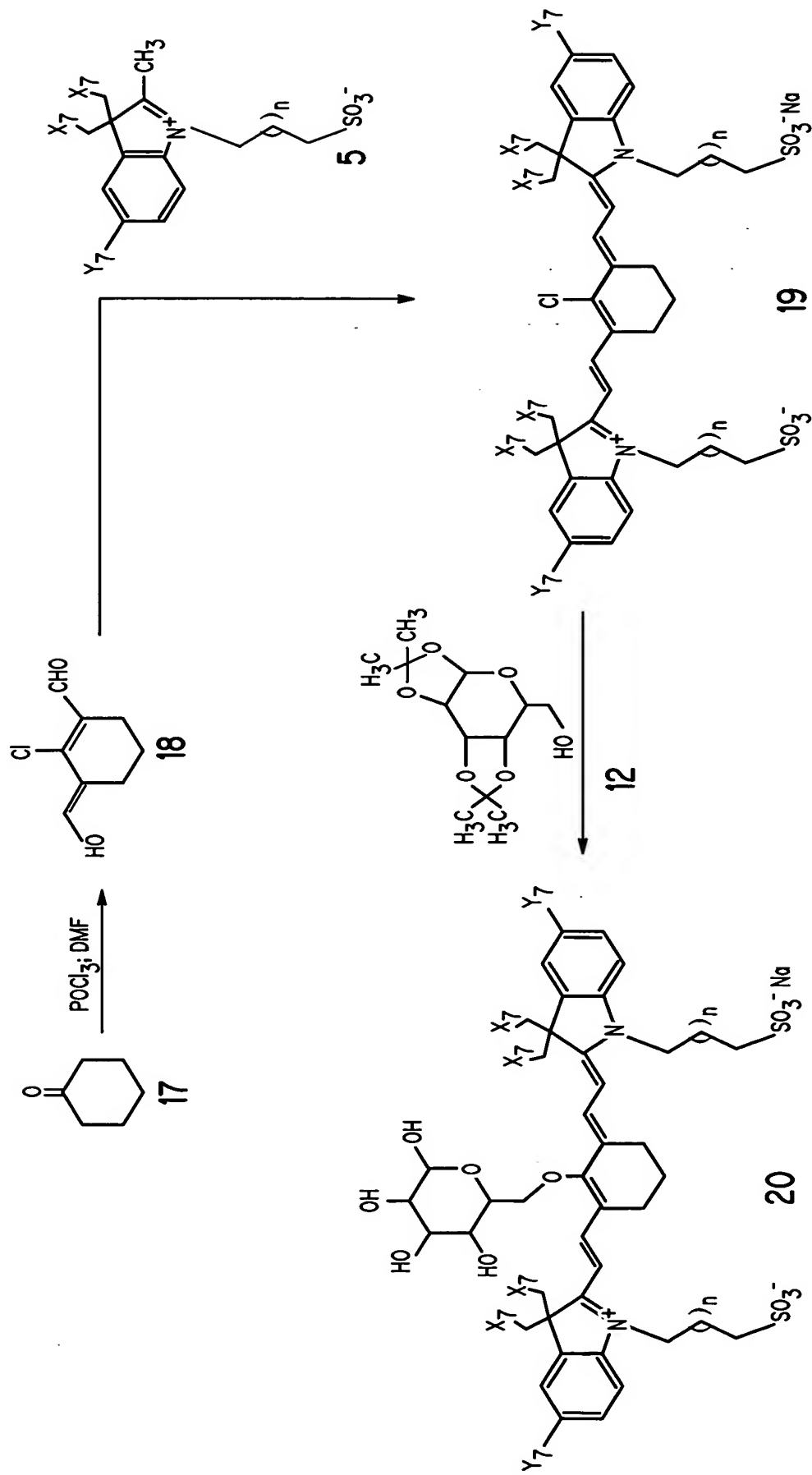


FIG. 5 :

$n = 1-3$; $X_7 = \text{H}, \text{OH}$; $Y_7 = \text{H}, \text{SO}_3^-, \text{CO}_2\text{H}, \text{CH}_2\text{CO}_2\text{H}, \text{CH}_2\text{OH}$

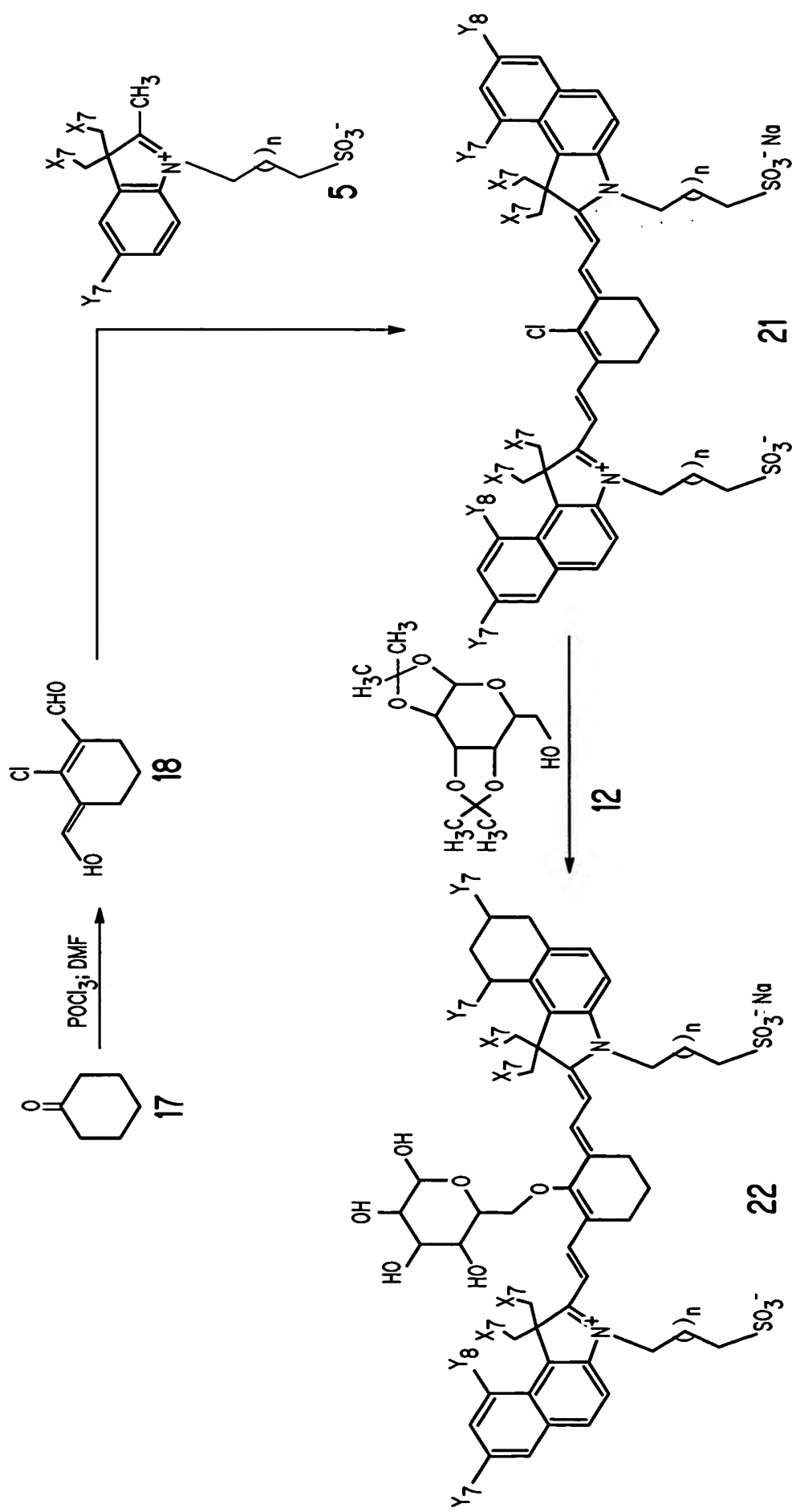


FIG. 6 :

$n = 1-3$; $X_7 = \text{H}, \text{OH}; Y_7, Y_8 = \text{H}, \text{SO}_3^-, \text{CO}_2\text{H}, \text{CH}_2\text{CO}_2\text{H}, \text{CH}_2\text{OH}$

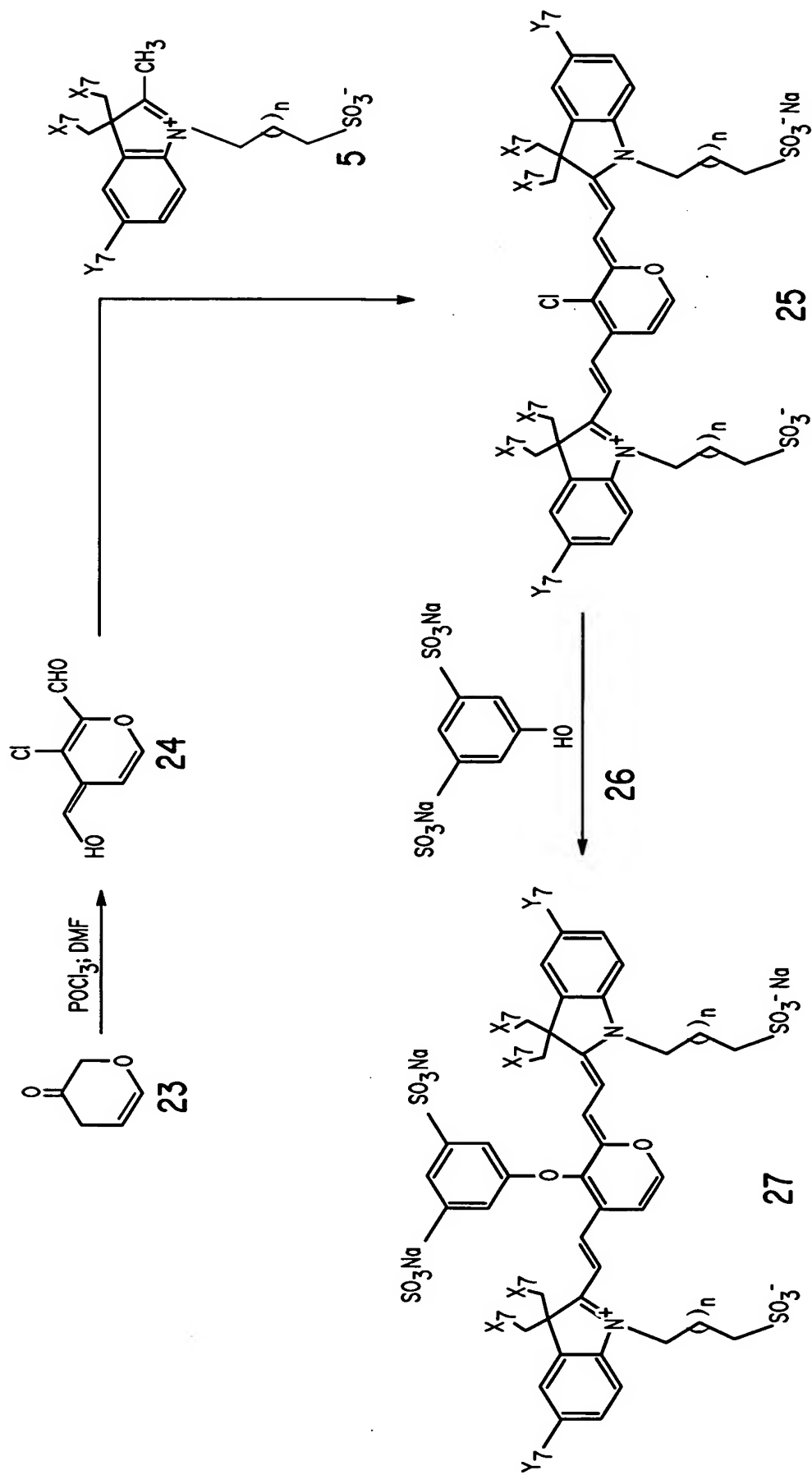


FIG. 7 :

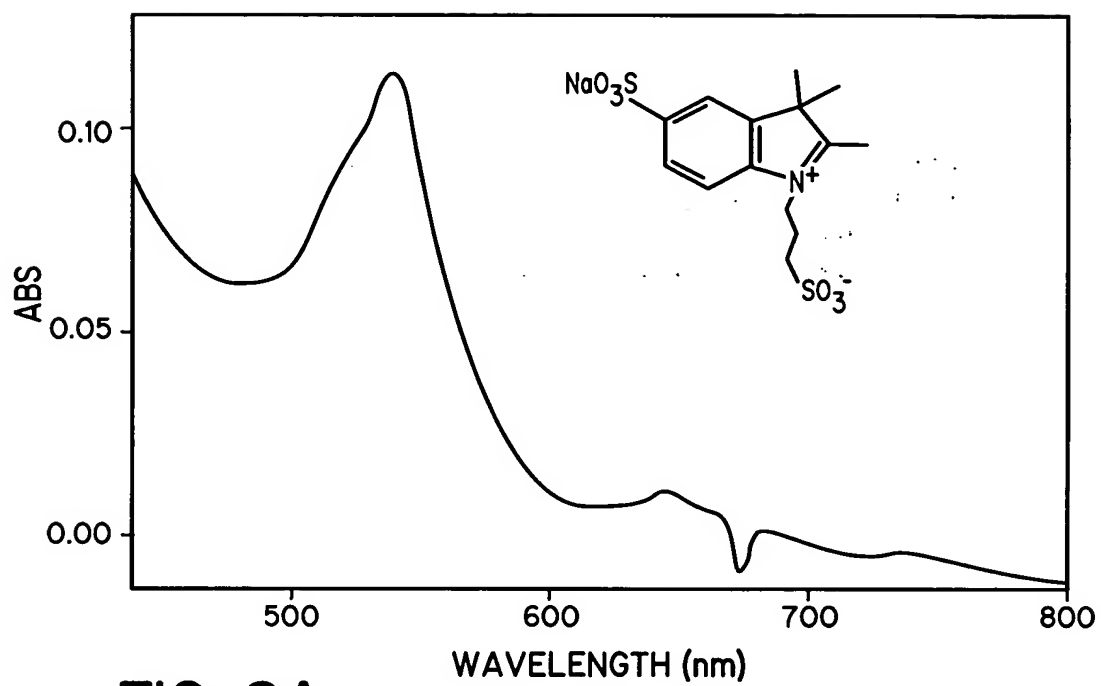


FIG. 8A

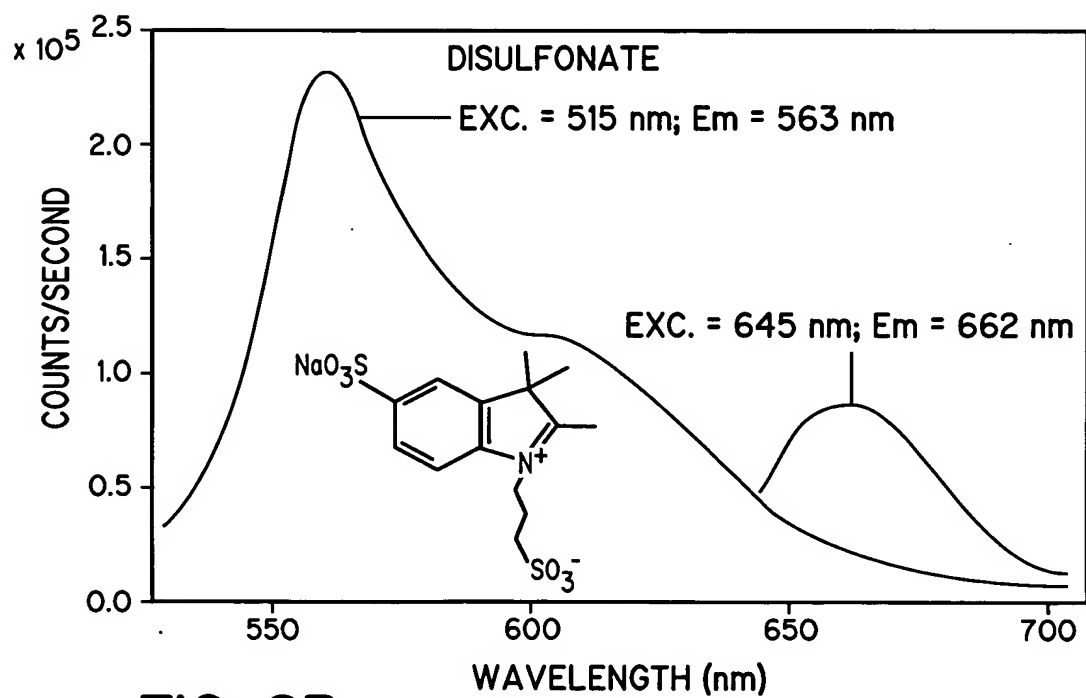


FIG. 8B

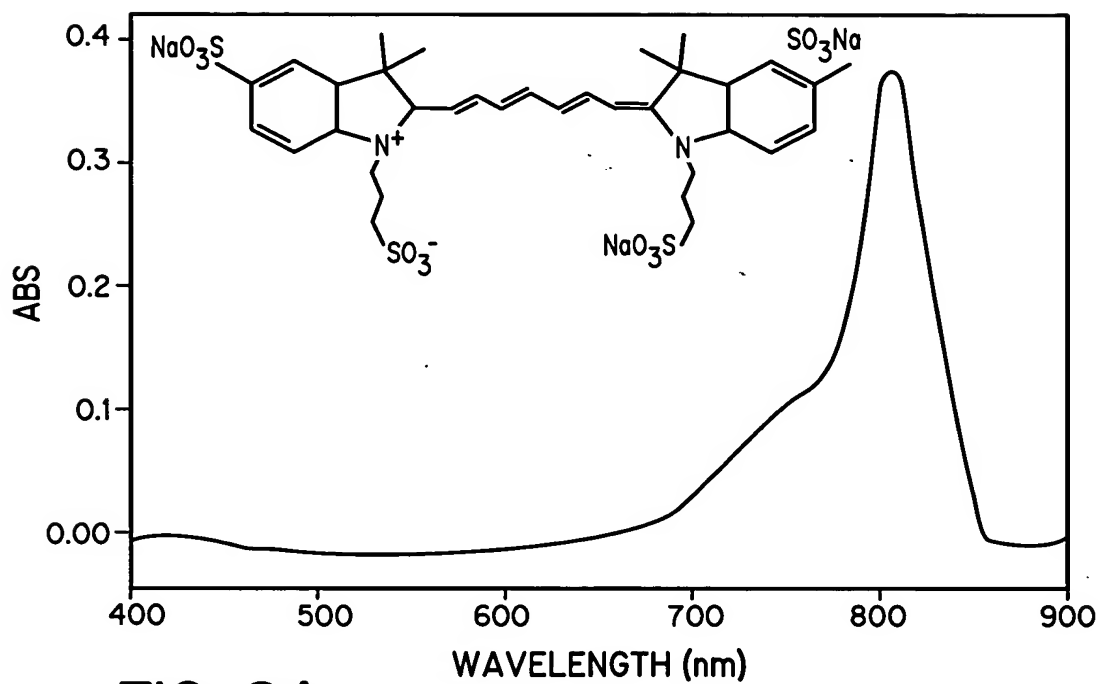


FIG. 9A

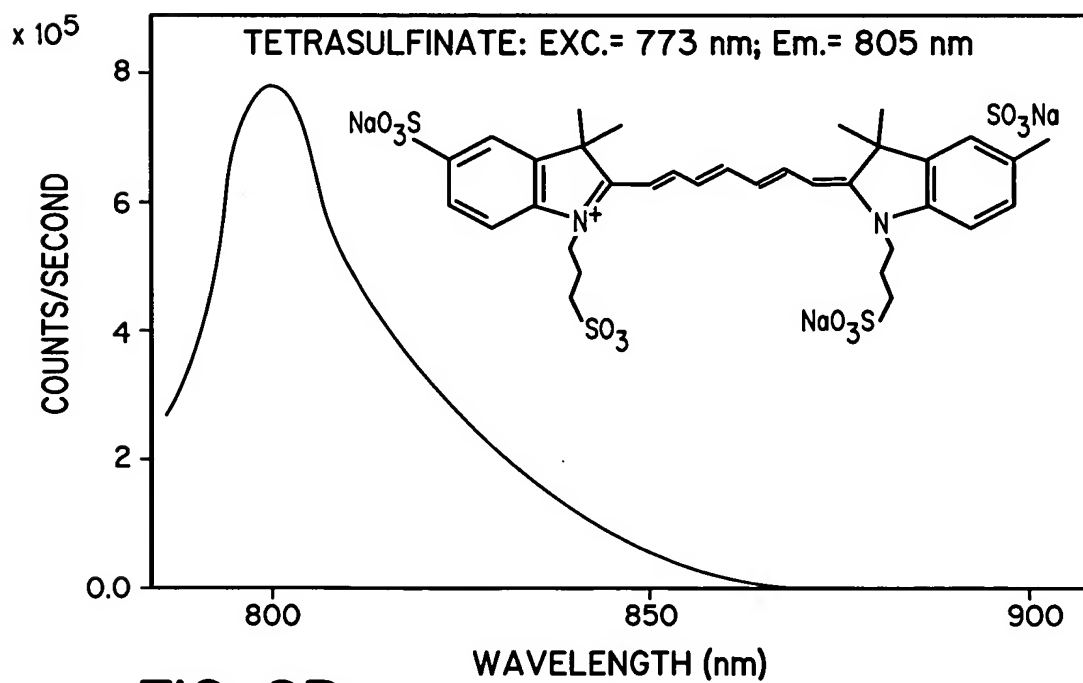
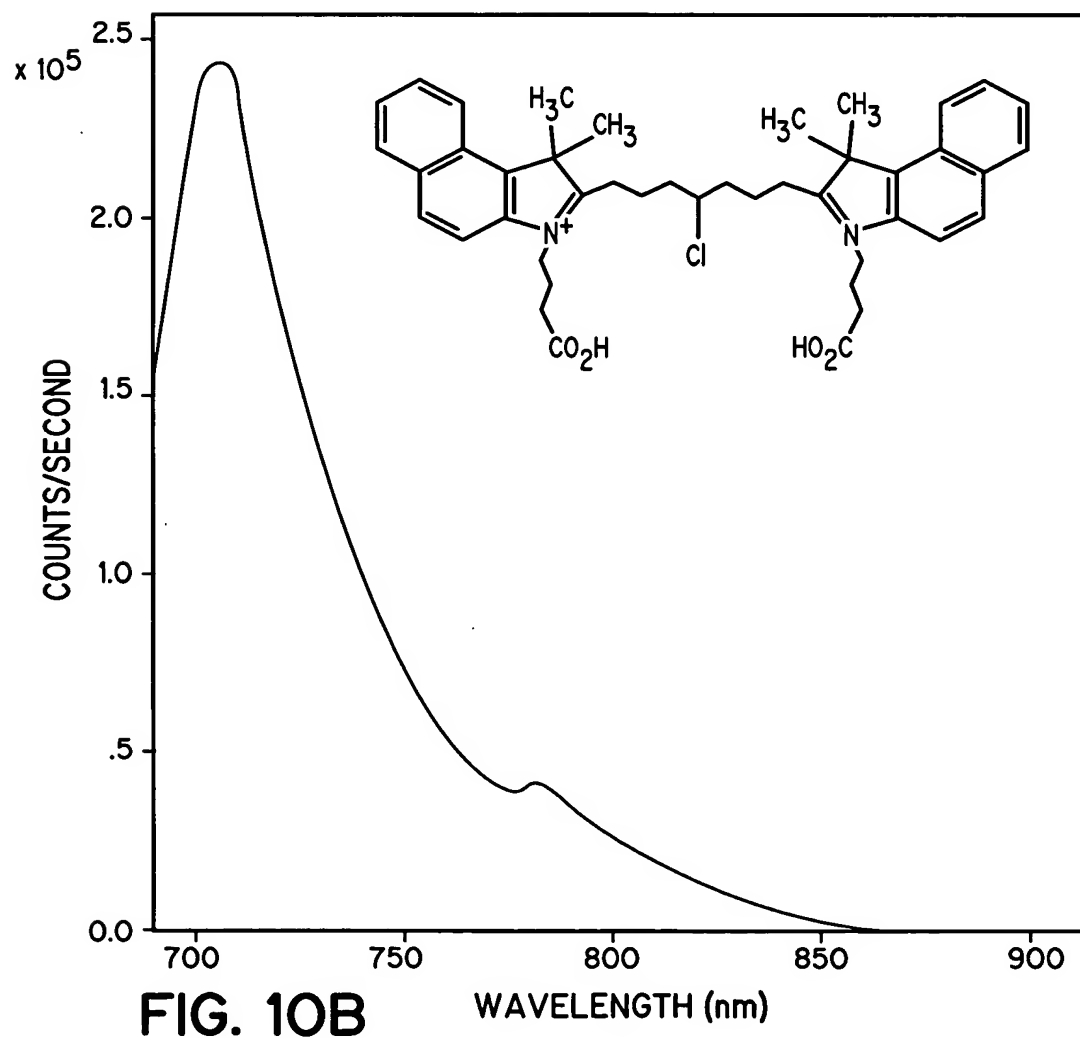
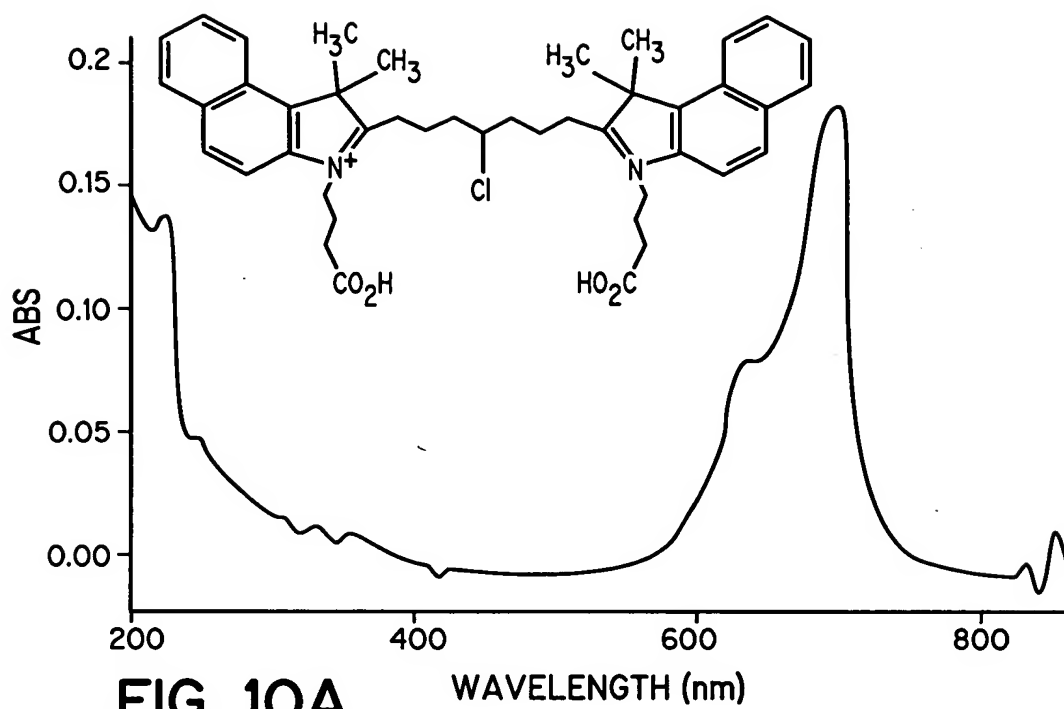
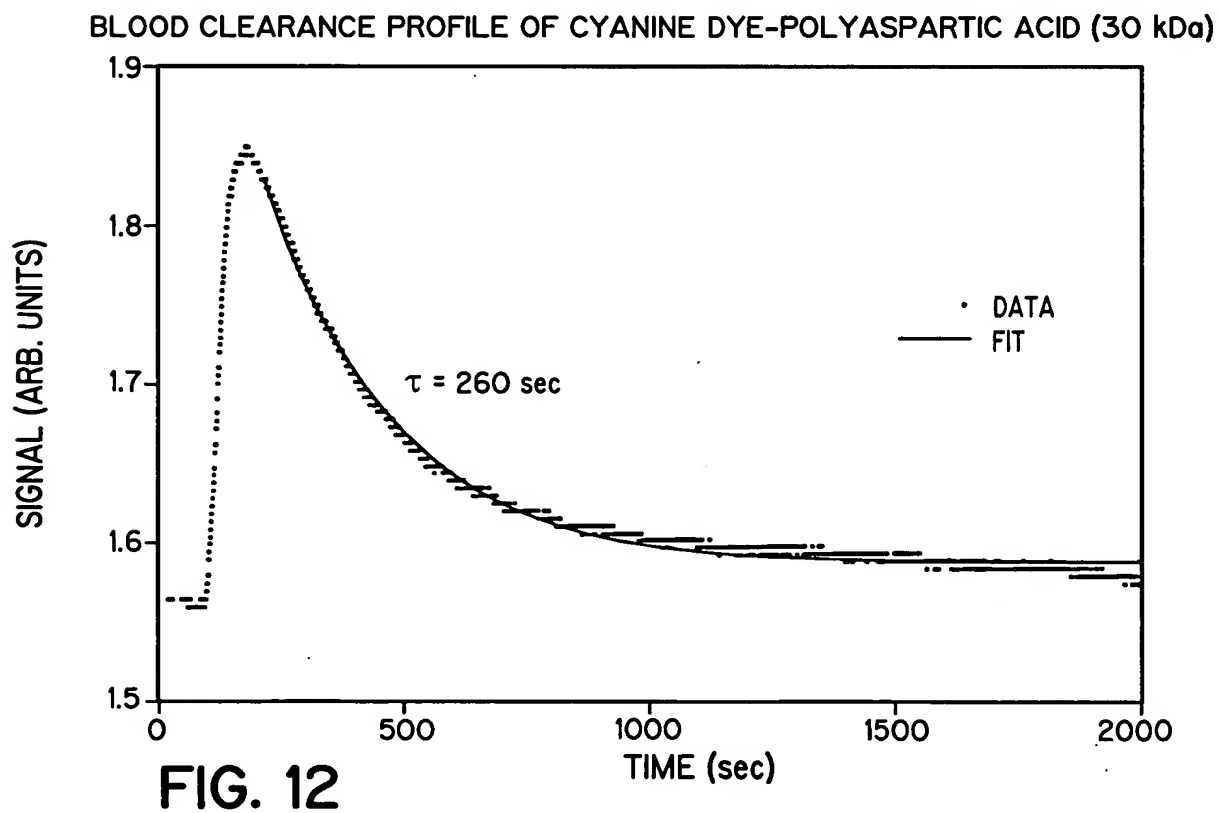
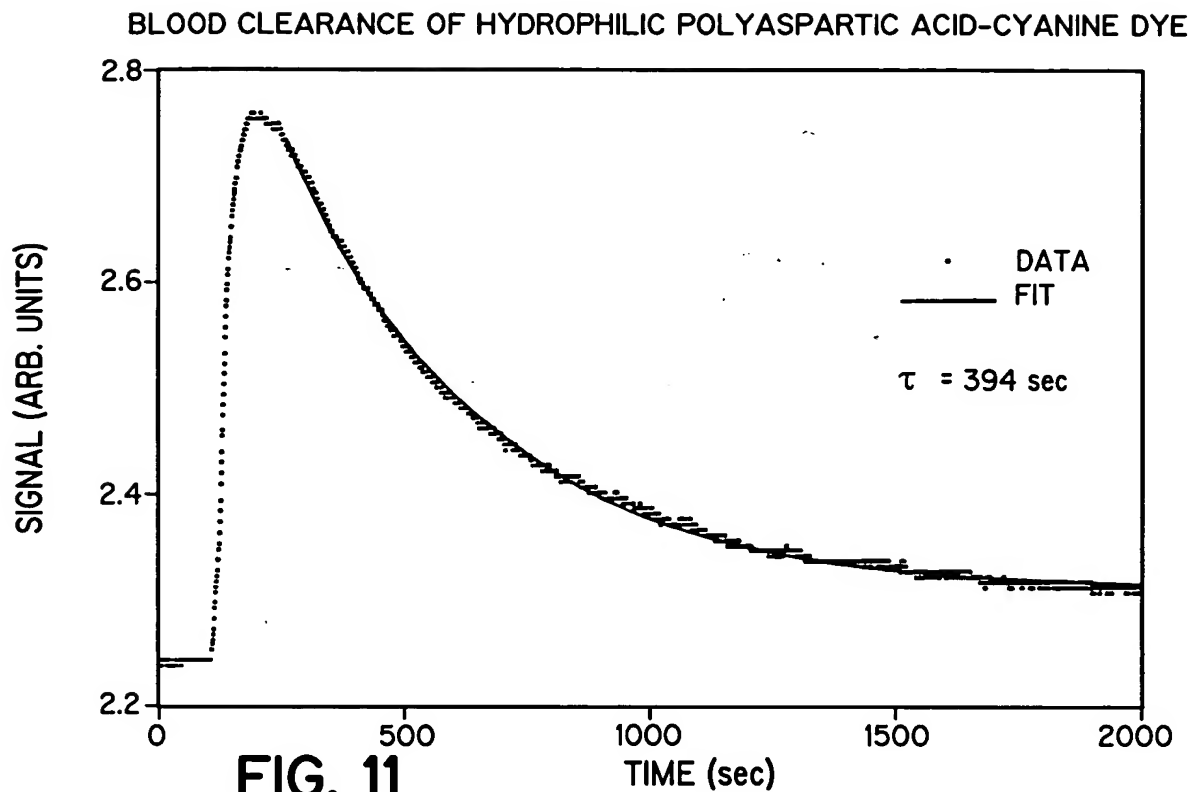


FIG. 9B





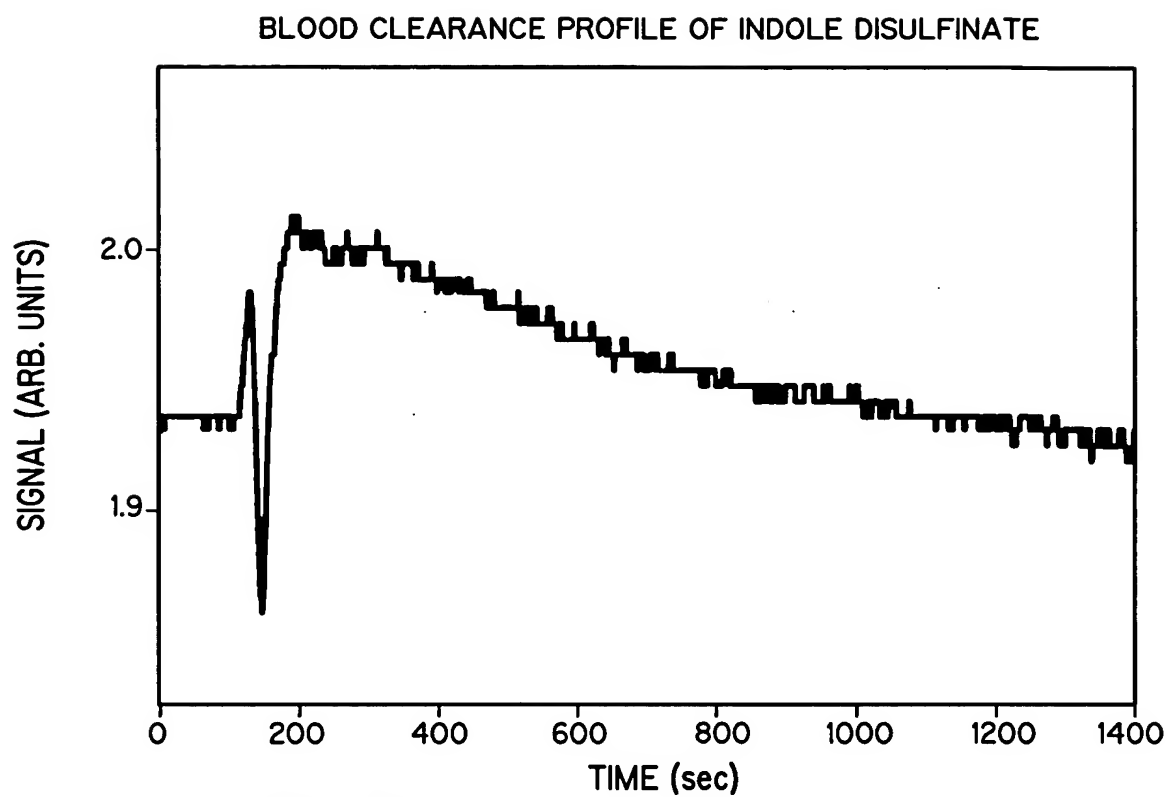


FIG. 13

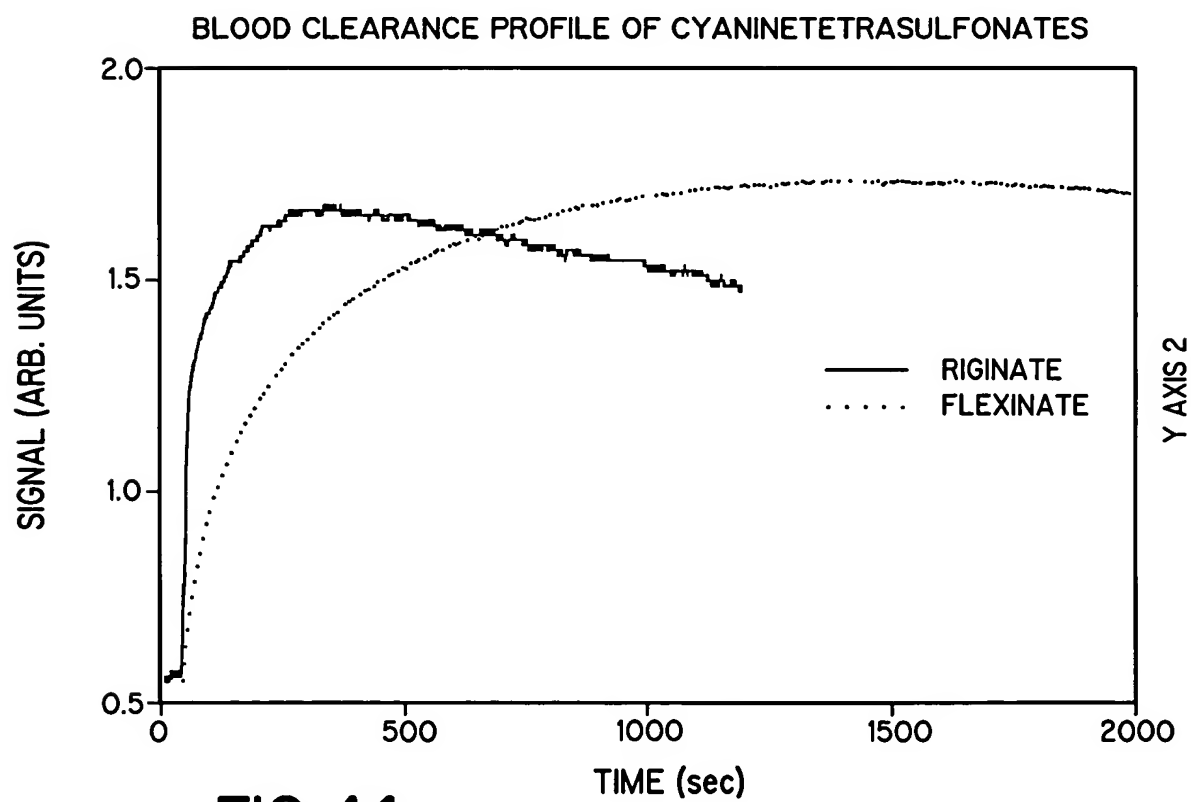


FIG. 14